

FFY 1999 Work Plan

DRINKING WATER STATE REVOLVING FUND

Source Water Delineation/Assessment Program

September 25, 1998

The Source Water Delineation and Assessment funds provided through the Drinking Water State Revolving Fund will be used to support staff activities resulting in completion of source water delineations and assessments of all Iowa drinking water source waters including program management and administration. The source water delineation and assessment funds will support 3.5 FTEs (2.0 at GSB, 1.5 at EPD). Excess funds will be banked and spent in later fiscal years.

GOAL: TO COMPLETE THE DELINEATION AND ASSESSMENT OF SOURCE WATERS WITH RESPECT TO THE 2, 5, 10, AND 25 YEAR TIME OF TRANSPORT FROM POTENTIAL SOURCES OF CONTAMINATION FOR EACH SOURCE OF PUBLIC DRINKING WATER IN IOWA BY SEPTEMBER 30, 2002.

OBJECTIVE 1: COMPILE AND ASSESS EXISTING WELL DATA AND HYDROGEOLOGIC DATA FOR PWSs AND ASSESS ITS SUITABILITY FOR SOURCE WATER PROTECTION AREA DELINEATIONS.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Develop SWP database from existing WHP/vulnerability database containing existing construction, stratigraphic, and hydrologic data for each PWS well. Integrate the locations of surface water intakes into the database.	0.2 EPD: 0.2	supplies, their wells and	12/31/98
and develop plan to rectify significant data gaps.	1.1 EPD: 0.3	Refined databases	2/15/99
3. Evaluate methods and software for completing delineations and compatibility at GSB in Iowa City with the libraries at EPD in Des Moines	GSB: 0.1	Interactive database	
4. a. Delineate surface water recharge areas and digitize critical subwatersheds for	0.2	Digitized maps for 35	
b. Coordinate with USGS and develop stream time-of-travel (TOT) estimates		TOT tabulations	6/30/99

OBJECTIVE 2: COMPLETE SOURCE WATER PROTECTION AREA DELINEATIONS AND ASSESSMENTS FOR IOWA'S PUBLIC WATER SUPPLIES.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
NOTE: Complete delineations and assessments for 15% of the PWSs each year (about 300) and will complete all of them by 6/30/02. 1. Delineate Wellhead Protection areas and construct Source Water Protection area coverages and link them to PWS's watershed coverages and SWP database. The information will be transmitted to the PWS in a readily usable format and DNR will meet and discuss the information with the PWS upon request. Where applicable, the PWS will be encouraged to hold a public meeting to discuss the information with their customers.	1.0 GSB: 0.8 EPD: 0.2	WHP area delineations and assessment maps/coverages	on-going

OBJECTIVE 3: MANAGE AND COORDINATE THE SOURCE WATER DELINEATION AND ASSESSMENT PROGRAMS FOR IOWA.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Manage and coordinate the source water protection program, including interdisciplinary or cross-program (319, TMDL, CRP, UST, etc.) approach as needed, and assure that commitments in the Iowa/EPA work plan, DWSRF intended use plan, and DWSRF operating agreement are met. Report progress in implementing work plan semi-annually with work plan report.	0.8 GSB: 0.3 EPD: 0.5		on-going

WORK PLAN SUMMARY

<u>FUNDING SOURCE</u>	<u>FUNDS</u>	<u>TOTAL FTEs</u>
		3.5 (GSB: 2.0, EPD: 1.5)
Funds: 10% of FFY97/98 EPA Capitalization Grant	\$1,685,730*	
FFY99 Budgeted Expenditures	409,580	
Projected Carryover to FFY 2000	\$1,276,150	

*Note: 20% State match is placed in Project Fund and is not shown above.

FFY 2000 Work Plan

DRINKING WATER STATE REVOLVING FUND

Source Water Delineation/Assessment Program

(DRAFT September 25, 1998)

The Source Water Delineation and Assessment funds provided through the Drinking Water State Revolving Fund will be used to support staff activities resulting in completion of source water delineations and assessments of all Iowa drinking water source waters including program management and administration. The source water delineation and assessment funds will support 5.50 FTEs (GSB: 3.5; EPD 2.0). Excess funds will be banked and spent in later fiscal years.

GOAL: TO COMPLETE THE DELINEATION AND ASSESSMENT OF SOURCE WATERS WITH RESPECT TO THE 2, 5, 10, AND 25 YEAR TIME OF TRANSPORT FROM POTENTIAL SOURCES OF CONTAMINATION FOR EACH SOURCE OF PUBLIC DRINKING WATER IN IOWA BY SEPTEMBER 30, 2002.

OBJECTIVE 1: COMPILE AND ASSESS EXISTING WELL DATA AND HYDROGEOLOGIC DATA FOR PWSs AND ASSESS ITS SUITABILITY FOR SOURCE WATER PROTECTION AREA DELINEATIONS.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Maintain and update SWP database from existing WHP/vulnerability database containing existing construction, stratigraphic, and hydrologic data for each PWS well. Integrate the locations of surface water intakes into the database.	0.1 EPD: 0.1	Database of public water supplies, their wells and surface water intakes.	on-going
2. a. Continue to assess existing data to determine suitability for SWP delineations; identify and develop plan to rectify significant data gaps. b. Continue to acquire missing data and update databases/coverages.	0.65 GSB: 0.2 EPD: 0.45	Refined databases coverages	2/15/2000 on-going
3. a. Continue delineation of surface water recharge areas and digitize critical subwatersheds for PWSs with surface water intakes within the State's borders. b. Refine stream time-of-travel (TOT) estimates for PWSs with surface water intakes.	0.2 EPD: 0.2	Digitized maps for 35 PWSs TOT tabulations	2/15/2000 6/30/2000

OBJECTIVE 2: COMPLETE SOURCE WATER PROTECTION AREA DELINEATIONS AND ASSESSMENTS FOR IOWA'S PUBLIC WATER SUPPLIES.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
NOTE: Complete delineations and assessments for about 30% of the PWSs each year (about 550) and will complete all of them by 6/30/02. 1. Delineate Wellhead Protection areas and construct Source Water Protection area coverages, and link them to PWS's watershed coverages and SWP database. The information will be transmitted to the PWS in a readily usable format and DNR will meet and discuss the information with the PWS upon request. Where applicable, the PWS will be encouraged to hold a public meeting to discuss the information with its customers.	3.55 GSB: 3.00 EPD: 0.55	WHP area delineations and assessment maps/coverages	on-going

OBJECTIVE 3: MANAGE AND COORDINATE THE SOURCE WATER DELINEATION AND ASSESSMENT PROGRAMS FOR IOWA.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Manage and coordinate the source water protection program, including interdisciplinary or cross-program (319, TMDL, CRP, UST, etc.) approach as needed, and assure that commitments in the Iowa/EPA work plan, DWSRF intended use plan, and DWSRF operating agreement are met.	1.0 GSB: 0.3 EPD: 0.7		on-going

WORK PLAN SUMMARY

<u>FUNDING SOURCE</u>	<u>FUNDS</u>	<u>TOTAL FTEs</u>
Carryover from FFY 1999	\$1,276,150	5.50 (GSB: 3.5; EPD: 2.0)
FFY00 Budgeted Expenditures	350,050	
Projected Carryover to FFY 2001	\$926,100	

FFY 2001 Work Plan

DRINKING WATER STATE REVOLVING FUND

Source Water Delineation/Assessment Program

(DRAFT September 25, 1998)

The Source Water Delineation and Assessment funds provided through the Drinking Water State Revolving Fund will be used to support staff activities resulting in completion of source water delineations and assessments of all Iowa drinking water source waters including program management and administration. The source water delineation and assessment funds will support 7.25 FTEs (GSB: 5.25; EPD: 2.0). Excess funds will be banked and spent in later fiscal years.

GOAL: TO COMPLETE THE DELINEATION AND ASSESSMENT OF SOURCE WATERS WITH RESPECT TO THE 2, 5, 10, AND 25 YEAR TIME OF TRANSPORT FROM POTENTIAL SOURCES OF CONTAMINATION FOR EACH SOURCE OF PUBLIC DRINKING WATER IN IOWA BY SEPTEMBER 30, 2002.

OBJECTIVE 1: COMPILE AND ASSESS EXISTING WELL DATA AND HYDROGEOLOGIC DATA FOR PWSs AND ASSESS ITS SUITABILITY FOR SOURCE WATER PROTECTION AREA DELINEATIONS.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Maintain and update SWP database from existing WHP/vulnerability database containing existing construction, stratigraphic, and hydrologic data for each PWS well. Integrate the locations of surface water intakes into the database.	0.2 EPD: 0.2	Database of public water supplies, their wells and surface water intakes.	on-going

OBJECTIVE 2: COMPLETE SOURCE WATER PROTECTION AREA DELINEATIONS AND ASSESSMENTS FOR IOWA'S PWSs.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
NOTE: DNR will complete delineations and assessments for an additional 30% of the PWSs (about 550) and will complete all of them by 6/30/02.			
1. a. Delineate Wellhead Protection areas and construct Source Water Protection area coverages, and link them to PWS's watershed coverages and SWP database. The information will be transmitted to the PWS in a readily usable format and DNR will meet and discuss the information with the PWS upon request.	6.25 GSB: 5.0 EPD: 1.25	WHP area delineations and assessment maps/coverages	on-going
b. Evaluate susceptibility of surface water sources to specific contamination sources.			
c. Where applicable, DNR will participate in public meetings to discuss the information with PWS's customers.			

OBJECTIVE 3: MANAGE AND COORDINATE THE SOURCE WATER DELINEATION AND ASSESSMENT PROGRAMS FOR IOWA.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Manage and coordinate the source water protection program, including interdisciplinary or cross-program (319, TMDL, CRP, UST, etc.) approach as needed, and assure that commitments in the Iowa/EPA work plan, DWSRF intended use plan, and DWSRF operating agreement are met.	0.8 GSB: 0.25 EPD: 0.55		on-going

WORK PLAN SUMMARY

<u>FUNDING SOURCE</u>	<u>FUNDS</u>	<u>TOTAL FTEs</u>
Carryover from FFY 2000	\$926,100	7.25 (GSB: 5.25; EPD: 2.0)
FFY01 Budgeted Expenditures	461,050	
Projected Carryover to FFY 2002	\$465,050	

FFY 2002 Work Plan

DRINKING WATER STATE REVOLVING FUND

Source Water Delineation/Assessment Program

(DRAFT September 25, 1998)

The Source Water Delineation and Assessment funds provided through the Drinking Water State Revolving Fund will be used to support staff activities resulting in completion of source water delineations and assessments of all Iowa drinking water source waters including program management and administration. The source water delineation and assessment funds will support 7.25 FTEs (GSB: 4.75; EPD: 2.5). Excess funds will be banked and spent in later fiscal years.

GOAL: TO COMPLETE THE DELINEATION AND ASSESSMENT OF SOURCE WATERS WITH RESPECT TO THE 2, 5, 10, AND 25 YEAR OF TRANSPORT FROM POTENTIAL SOURCES OF CONTAMINATION FOR EACH SOURCE OF PUBLIC DRINKING WATER IN IOWA BY SEPTEMBER 30, 2002.

OBJECTIVE 1: COMPILE AND ASSESS EXISTING WELL DATA AND HYDROGEOLOGIC DATA FOR PWSs AND TO ASSESS ITS SUITABILITY FOR SOURCE WATER PROTECTION AREA DELINEATIONS.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Develop SWP database from existing WHP/vulnerability database containing existing construction, stratigraphic, and hydrologic data for each PWS well. Integrate the locations of surface water intakes into the database.	0.3 EPD: 0.3	Database of public water supplies and available data their wells and the locations of the surface water intakes	on-going
2. a. Assess existing data to determine suitability for SWP delineations; identify and develop plan to rectify significant data gaps.	2.7	Report	2/15/02
b. Acquire missing data and update databases/coverages.	GSB: 1.7 EPD: 1.0	Refined databases coverages	on-going
3. Evaluate methods and software for completing delineations and compatibility with available data, GIS software (ARCINFO & ARCVIEW) and the GIS libraries at GSB in Iowa City with the libraries at EPD in Des Moines.	0.2 EPD: 0.2	Interactive database	2/15/02

OBJECTIVE 2: COMPLETE SOURCE WATER PROTECTION AREA DELINEATIONS AND ASSESSMENTS FOR IOWA'S PUBLIC WATER SUPPLIES.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
NOTE: DNR will complete delineations and assessments for 25% of the PWSs each year (about 490) and will complete all of them by 6/30/02. 1. Delineate Wellhead Protection areas and construct Source Water Protection area coverages and link them to PWS's watershed coverages and SWP database. The information will be transmitted to the PWS in a readily usable format and DNR will meet and discuss the information with the PWS upon request. Where applicable, the PWS will be encouraged to hold a public meeting to discuss information with its customers.	3.1 GSB: 2.4 EPD: 0.7	WHP area delineations and assessment maps/coverages	on-going

OBJECTIVE 3: MANAGE AND COORDINATE THE SOURCE WATER DELINEATION AND ASSESSMENT PROGRAMS FOR IOWA.

ACTIVITY	FTE	OUTPUT/ WORK PRODUCTS	COMPLETION DATE
1. Manage and coordinate the source water protection program, including interdisciplinary or cross-program (319, TMDL, CRP, UST, etc.) approach as needed, and assure that commitments in the Iowa/EPA work plan, DWSRF intended use plan, and DWSRF operating agreement are met.	0.95 GSB: 0.65 EPD: 0.3		on-going

WORK PLAN SUMMARY

<u>FUNDING SOURCE</u>	<u>FUNDS</u>	<u>TOTAL FTEs</u>
Carryover from FFY 2001	\$465,050	7.25 (GSB: 4.75; EPD: 2.5)
FFY02 Budgeted Expenditures	465,050	

Estimated Budget

	FFY 99	FFY 00	FFY 01	FFY 02	Row Totals
(Number of FTEs*)	(3.50)	(5.50)	(7.25)	(7.25)	(23.50)
Professional employees	\$175,000	\$187,500	\$287,500	\$296,500	\$946,500
Student/seasonal employees	5,000	22,000	22,000	22,000	71,000
Office supplies	4,000	4,000	5,000	5,000	18,000
Computer/Upgrades	78,150	23,300	24,550	19,550	145,550
Travel	7,000	7,000	10,000	10,000	34,000
Other	4,000	4,000	5,000	5,000	18,000
Printing	5,000	5,000	6,000	6,000	22,000
<hr/> Sub-Total	<hr/> \$278,150	<hr/> \$ 252,800	<hr/> \$360,050	<hr/> \$364,050	<hr/> \$1,255,050
3rd party contractors & special projects (estimated)	\$131,430	\$97,250	\$101,000	\$101,000	\$430,680
<hr/>	<hr/> 409,580	<hr/> 350,050	<hr/> 461,050	<hr/> 465,050	<hr/> 1,685,730
<u>Project Overall Total</u>					<u>\$1,685,730</u>

NOTES

2.0 FTEs will be needed to perform source water delineations (years 1-4)

1.0 FTE will be devoted to database assessment and development of product delivery mechanisms (years 1-4)

0.50 FTE is needed for program coordination and grant administration year 1, 1.00 FTE is needed in year 2, and 0.75 FTEs each in years 3 and 4

2.0 FTEs will be used if necessary to do onsite investigations required for delineations (years 3-4)

1.5 FTE in student (& seasonal) help may be necessary (years 2-4)

*This is the total number of FTEs anticipated for this project. During the project, contract service employees will not be listed individually on the time code sheets, but are included in this total FTE number.

The third party contracts are intended to provide the Department with the opportunity to contract with local utilities or other interested organizations to complete portions of the statewide delineation and assessment. Third party contracts will focus on delineating and assessing surface water system sources. The proposed budget includes the completion of determinations for Surface Water and Groundwater supplies. The equipment budget is comprised mainly of computer/printer/server and software costs, especially Arcview/Arcinfo provisions for related staff. Larger numbers for FY 2001-2002 include costs to allow World Wide Web access to Source Water Delineation/Assessment products. A detailed breakout of the computer hardware and software budget is included on the next page.

SOURCE WATER DELINEATION
COMPUTER HARDWARE AND SOFTWARE BUDGET

ITEM	Year 1	Year 2	Year 3	Year 4	Item Total
GIS Project File Server (Pro Rata)	5,000				5,000
UPS	1,500				1,500
Data Storage Subsystem (Iowa City)	6,000		3,000	3,000	12,000
DLT Tape Backup Drive	3,800				3,800
DLT Media (50 tapes)	550	550	550	550	2,200
Data Storage Subsystem (Des Moines)		6,000	3,000	3,000	12,000
Plotter	10,000				10,000
Printer			5,000		5,000
Network Connections (Hub/Concentrator)	2,800				2,800
Web Server Hardware	5,000				5,000
Web Server-based GIS Software	10,000				10,000
ARCSDE Software + 10 additional user licenses		8,750	5,000	5,000	18,750
Dedicated Web Service Workstation	3,000				3,000
GIS Web Deployment Software	7,500				7,500
Software Maintenance Contract		2,000	2,000	2,000	6,000
PC Workstations (10)	12,000	6,000	6,000	6,000	30,000
ArcView Software (11)	11,000				11,000
TOTAL	78,150	23,300	24,550	19,550	145,550